

Mammoth Creek  
Forest Stewardship Plan



**Appendix F – Soil Descriptions**

**P49: Frandsen loam, 1 to 15 percent slopes**

The Frandsen soil is very deep and well drained. It occurs on dissected alluvial fans and mountain foot slopes in the east central part of the Cedar City Ranger District and the southwestern part of the Escalante Ranger District. The soil formed in alluvium and colluvium derived dominantly from sandstone, limestone and shale. Slopes are concave to convex in shape and are medium in length. The present vegetation in most areas is mainly black sagebrush and grasses. Elevation is 7,300 to 8,500 feet. The average annual precipitation is 14 to 16 inches, the average annual air temperature is 40 to 44 degrees F., and the freeze-free period is 70 to 100 days.

Typically, the surface layer is light brownish gray loam about 3 inches thick. The underlying material to a depth of 60 inches or more is light brown, pinkish gray, and pale brown loam. In some small areas the surface layer is stony loam and the potential plant community includes big sagebrush.

Included in this unit are about 10 percent Evanston loam in lower lying areas on alluvial fans and 5 percent Codley silt loam that has slopes of 2 to 5 percent and is on valley plains.

Permeability of the Frandsen soil is moderate. Available water capacity is 9 to 10 inches. Effective rooting depth is 60 inches or more. The organic matter content of the surface layer is 1 to 3 percent. Runoff is medium, and the hazard of water erosion is moderate.

This unit is used as rangeland and wildlife habitat.

**P162: Wiggler - Guben complex, 25 to 50 percent slopes**

This map unit is on mountainsides in the vicinity of Mammoth and Asay Creeks. Slopes are convex and are medium in length. The present vegetation in most areas is ponderosa pine, shrubs, and grasses. Elevation is 7,600 to 8,300 feet. The average annual precipitation is 16 to 18 inches, the average annual air temperature is 38 to 42 degrees F., and the freeze-free period is 50 to 75 days.

This unit is 45 percent Wiggler very cobbly loam, 25 to 50 percent slopes; 40 percent Guben very gravelly loam, 25 to 50 percent slopes; and 15 percent other soils. The components of this map unit are so intricately intermingled that it was not practical to map them separately at the scale used.

Included in this unit are about 10 percent Podo very gravelly loam that has slopes of 10 to 50 percent and is on areas adjacent to Rock outcrop and 5 percent Rock outcrop and Badland.

The Wiggler soil is shallow and well drained. It formed in residuum and colluvium derived dominantly from shale. Typically, the surface layer is gray very cobbly loam about 7 inches thick. The upper part of the underlying material is light gray loam 5 inches thick, and the lower part to a depth of 19 inches is light gray clay loam. Weathered shale is at a depth of 19 inches. Depth to shale ranges from 8 to 20 inches.

Permeability of the Wiggler soil is moderate. Available water capacity is 3.5 to 5.5 inches. Effective rooting depth is 8 to 20 inches. The organic matter content of the surface layer is 0.5 to 2.0 percent. Runoff is medium, and the hazard of water erosion is moderate.

The Guben soil is very deep and well drained. It formed in alluvium derived dominantly from sandstone and limestone. Typically, the surface layer is brown gravelly loam about 8 inches thick. The subsoil is very pale brown very gravelly loam 7 inches thick. The upper 21 inches of the substratum is very pale brown very gravelly loam, and the lower part to a depth of 60 inches or more is very pale brown very gravelly loam.

Permeability of the Guben soil is moderate. Available water capacity is 4 to 5 inches. Effective rooting depth is 60 inches or more. The organic matter content of the surface layer is 2 to 4 percent. Runoff is medium, and the hazard of water erosion is moderate.

This unit is used as rangeland, woodland, and wildlife habitat.

## **229: Skyview - Syrett families complex, 0 to 30 percent slopes**

This map unit is on nearly level to moderately steep benches and sideslopes on the Markagunt Plateau on the Cedar City Ranger District. The present vegetation is mainly ponderosa pine. Slope is 0 to 30 percent. Elevation is 7,500 to 8,400 feet. The average annual precipitation is 16 to 22 inches, the mean annual air temperature is 36 to 42 degrees F., and the freeze-free period is 50 to 80 days.

This unit is 45 percent Skyview soils on benches, 40 percent Syrett soils on benches, sideslopes, and toeslopes, and 15 percent other soils. The components of this unit are so intricately intermingled that it was not practical to map them separately at the scale used.

Included in this unit are about 5 percent of Paunsaugunt soils, 5 percent soils similar to Skyview but shallow over limestone bedrock, and 5 percent limestone rock outcrop, all of which typically occur on edges of benches and on steeper sideslopes.

The Skyview soil is moderately deep and well-drained. It formed in residuum weathered from limestone. Typically, the surface layer is brown silt loam about 8 inches thick. The upper 6 inches of the subsoil is brown very gravelly silty clay loam. The lower 11 inches is brown very cobbly silty clay loam. Limestone bedrock is at a depth of 25 inches. Rock fragments cover 10 to 40 percent of the surface and are mostly gravel. Depth to bedrock ranges from 20 to 40 inches. Rock fragments cover about 0 to 40 percent of the surface and are mostly gravels.

Permeability of the Skyview soil is moderately slow. Available water capacity is 2.5 to 6 inches. Effective rooting depth is 20 to 40 inches. The organic matter content of the surface layer is 1 to 3 percent. Runoff is high and the hazard of water erosion is moderately low.

The Syrett soil is very deep and well-drained. It formed in residuum and colluvium derived from limestone bedrock. Typically the soil is grayish brown and light brownish gray very gravelly loam to a depth of 60 inches. Rock fragments cover 5 to 60 percent of the surface and are mostly gravels.

Permeability of the Syrett soil is moderate. Available water capacity to a depth of 60 inches is about 4.5 to 7 inches. Effective rooting depth is 60 inches or more. The organic matter content of the surface layer is 1 to 3 percent. Runoff is medium and the hazard of water erosion is moderately low.

This unit is used mainly for timber production. It is also used for watershed, wildlife habitat and recreation.

**236: Buffmeyer - Rogert - Sawpit families complex, 30 to 60 percent slopes**

This map unit is on steep hillslopes, canyon sideslopes and plateau sideslopes of the Markagunt Plateau on the Cedar City Ranger District. The present vegetation is mainly a mixed conifer forest. Slope is 30 to 60 percent. Elevation is 7,000 to 10,000 feet. The average annual precipitation is 20 to 35 inches, the mean annual air temperature is 34 to 42 degrees F., and the freeze-free period is 30 to 80 days.

This unit is 45 percent Buffmeyer soils on midslope areas, 20 percent Rogert soils on ridges and south and west aspects, 20 percent Sawpit soils on toeslopes and concave sideslopes and 15 percent other soils. The components of this unit are so intricately intermingled that it was not practical to map them separately at the scale used.

Included in this unit is about 10 percent Pachic Argicryolls fine-loamy and loamy-skeletal and 5 percent limestone rock outcrop.

The Buffmeyer soil is moderately deep and well-drained. It formed in residuum derived from limestone. Typically, the soil is 20 to 40 inches deep over bedrock. The surface layer is dark brown gravelly loam about 2 inches thick. The subsoil is reddish brown very gravelly clay loam about 22 inches thick. The lower 16 inches of the subsoil is calcareous. Limestone bedrock is at a depth of about 24 inches. Rock fragments cover 60 to 80 percent of the surface and are mostly gravels and cobbles.

Permeability of the Buffmeyer soil is moderately slow. Available water capacity is 1.5 to 4.5 inches. Effective rooting depth is 20 to 40 inches. The organic matter content of the surface layer is 1 to 3 percent. Runoff is very high and the hazard of water erosion is moderately high.

The Rogert soil is shallow and somewhat excessively drained. It formed in residuum and colluvium derived from limestone. Typically, the soil is 10 to 20 inches deep over bedrock. The surface layer is brown very gravelly silt loam about 12 inches thick. The substratum is light brown very gravelly loam about 4 inches thick. Fractured limestone bedrock is at a depth of 16 inches. Rock fragments cover 40 to 70 percent of the surface and are mostly gravels.

Permeability of the Rogert soil is moderately slow. Available water capacity is 1 to 2.5 inches. Effective rooting depth is 10 to 20 inches. The organic matter content of the surface layer is 1 to 3 percent. Runoff is very high and the hazard of water erosion is moderately high.

The Sawpit soil is moderately deep and well-drained. It formed in residuum and colluvium derived from limestone. Typically, the soil is 20 to 40 inches deep over bedrock. The surface layer is grayish brown gravelly silt loam about 10 inches thick. The substratum is brown extremely gravelly silt loam about 14 inches thick. Fractured limestone bedrock is at a depth of 24 inches. Rock fragments cover 50 to 90 percent of the surface. Rock fragments range from 35 to 70 percent in the substratum.

Permeability of the Sawpit soil is moderately slow. Available water capacity is 2 to 5 inches. Effective rooting depth is 20 to 40 inches. The organic matter content of the surface layer is 2 to 3 percent. Runoff is very high and the hazard of water erosion is moderately high.

This unit is used mainly for timber production. It is also used for wildlife habitat, watershed, and recreation.

**282: Tolman, dry family - Rock outcrop complex, 15 to 40 percent slopes**

This map unit is on moderately steep to steep hillslopes in the central and northeastern parts of the Cedar City Ranger District. The present vegetation is dominantly pinyon and juniper. Slope is 15 to 40 percent. Elevation is 7,200 to 8,100 feet. The average annual precipitation is 12 to 14 inches, the mean annual air temperature is 38 to 44 degrees F., and the freeze-free period is 90 to 110 days.

This unit is 60 percent Tolman soils, 20 percent rock outcrop, and 20 percent other soils. The components of this unit are so intricately intermingled that it was not practical to map them separately at the scale used.

Included in this unit are 10 percent Waltershow soils and 10 percent Zillman soils.

The Tolman soil is shallow and somewhat excessively drained. It formed in residuum and colluvium derived from intermediate volcanic rocks. Typically, the surface layer is grayish brown very gravelly loam about 6 inches thick. The subsoil is brown very gravelly sandy clay loam underlain by bedrock at a depth of 12 inches. Rock fragments cover about 75 percent of the surface and are mostly gravels and cobbles.

Permeability of the Tolman soil is moderately slow. Available water capacity is 1 to 2.5 inches. Effective rooting depth is 10 to 20 inches. The organic matter content of the surface layer is 1 to 2 percent. Runoff is very high and the hazard of water erosion is moderate

Rock outcrop consists of barren or nearly barren exposures of andesite, latite and trachyte.

This unit is used for wildlife habitat, livestock grazing, watershed and recreation.

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
220: Hesperus-----	45	Severe Stoniness Slope Strength	1.00 0.50 0.50	Poorly suited Slope Strength	1.00 0.50	Severe Strength	1.00
Zillion-----	40	Severe Restrictive layer Slope Strength	1.00 0.50 0.50	Poorly suited Slope Strength	1.00 0.50	Severe Strength	1.00
229: Skyview-----	45	Severe Restrictive layer Slope Strength	1.00 0.50 0.50	Poorly suited Slope Strength	1.00 0.50	Severe Strength	1.00
Syrett-----	40	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
234: Syrett-----	35	Severe Horizon table contains no data Slope	1.00 1.00	Poorly suited Slope Horizon table contains no data	1.00 1.00	Severe Horizon table contains no data	1.00
Paunsaugunt-----	30	Severe Slope Restrictive layer	1.00 1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Ustorthents-----	20	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
236: Buffmeyer-----	45	Severe Horizon table contains no data Slope	1.00 1.00	Poorly suited Slope Horizon table contains no data	1.00 1.00	Severe Horizon table contains no data	1.00
Rogert-----	20	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Sawpit-----	20	Severe Slope Restrictive layer Sandiness	1.00 1.00 0.50	Poorly suited Slope Strength	1.00 0.50	Severe Strength	1.00

Table FOR-1.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
240A: Sawdust-----	60	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Shawa, calcareous----	20	Moderate Strength	0.50	Moderately suited Strength Slope	0.50 0.50	Severe Strength	1.00
277: Zillion-----	50	Severe Horizon table contains no data Slope	1.00 1.00	Poorly suited Slope Horizon table contains no data	1.00 1.00	Severe Horizon table contains no data	1.00
Hesperus-----	35	Severe Horizon table contains no data Slope	1.00 1.00	Poorly suited Slope Horizon table contains no data	1.00 1.00	Severe Horizon table contains no data	1.00
282: Tolman, dry-----	60	Severe Horizon table contains no data Slope	1.00 1.00	Poorly suited Slope Horizon table contains no data	1.00 1.00	Severe Horizon table contains no data	1.00
Rock Outcrop (andesite, Latite And Trachyte)-----	20	Not rated		Not rated		Not rated	
P49: Frandsen-----	100	Moderate Strength	0.50	Moderately suited Slope Strength	0.50 0.50	Severe Strength	1.00
P97: Neto-----	98	Moderate Strength	0.50	Moderately suited Strength	0.50	Severe Strength	1.00
Small Depressions---	2	Severe Horizon table contains no data	1.00	Poorly suited Horizon table contains no data	1.00	Severe Horizon table contains no data	1.00
P162: Wiggler-----	45	Severe Slope Strength	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Guben-----	40	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10



Table FOR-2.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Shawa, calcareous----	20	Slight Slope/erodibility	0.16	Moderate Slope/erodibility	0.89	Moderately suited Strength Slope	0.50 0.50
277: Zillion-----	50	Very severe Horizon table contains no data Slope/erodibility	1.00 0.98	Severe Horizon table contains no data Slope/erodibility	1.00 1.00	Poorly suited Slope Horizon table contains no data	1.00 1.00
Hesperus-----	35	Very severe Horizon table contains no data Slope/erodibility	1.00 0.98	Severe Horizon table contains no data Slope/erodibility	1.00 1.00	Poorly suited Slope Horizon table contains no data	1.00 1.00
282: Tolman, dry-----	60	Very severe Horizon table contains no data Slope/erodibility	1.00 0.98	Severe Horizon table contains no data Slope/erodibility	1.00 1.00	Poorly suited Slope Horizon table contains no data	1.00 1.00
Rock Outcrop (andesite, Latite And Trachyte)-----	20	Not rated		Not rated		Not rated	
P49: Frandsen-----	100	Slight Slope/erodibility	0.20	Moderate Slope/erodibility	0.89	Moderately suited Slope Strength	0.50 0.50
P97: Neto-----	98	Slight Slope/erodibility	0.02	Slight Slope/erodibility	0.11	Moderately suited Strength	0.50
Small Depressions---	2	Very severe Horizon table contains no data	1.00	Severe Horizon table contains no data	1.00	Poorly suited Horizon table contains no data	1.00
P162: Wiggler-----	45	Severe Slope/erodibility	0.75	Severe Slope/erodibility	1.00	Poorly suited Slope	1.00
Guben-----	40	Severe Slope/erodibility	0.75	Severe Slope/erodibility	1.00	Poorly suited Slope	1.00

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
220: Hesperus-----	45	Well suited		Moderately suited Slope	0.50	Moderately suited Strength	0.50
Zillion-----	40	Unsuited Restrictive layer	1.00	Moderately suited Slope	0.50	Moderately suited Strength	0.50
229: Skyview-----	45	Unsuited Restrictive layer	1.00	Unsuited Slope	1.00	Moderately suited Strength Slope	0.50 0.50
Syrett-----	40	Well suited		Unsuited Slope	1.00	Moderately suited Slope	0.50
234: Syrett-----	35	Unsuited Horizon table contains no data Slope	1.00 0.50	Unsuited Slope Horizon table contains no data	1.00 1.00	Poorly suited Horizon table contains no data Slope	1.00 1.00
Paunsaugunt-----	30	Unsuited Restrictive layer Slope	1.00 0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
Ustorthents-----	20	Poorly suited Restrictive layer Slope	0.75 0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
236: Buffmeyer-----	45	Unsuited Horizon table contains no data Slope	1.00 0.50	Unsuited Slope Horizon table contains no data	1.00 1.00	Poorly suited Horizon table contains no data Slope	1.00 1.00
Rogert-----	20	Unsuited Restrictive layer Slope	1.00 0.50	Unsuited Slope	1.00	Moderately suited Slope	0.50
Sawpit-----	20	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope Strength	1.00 0.50
240A: Sawdust-----	60	Well suited		Moderately suited Slope	0.50	Well suited	

Table FOR-3.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Shawa, calcareous----	20	Well suited		Moderately suited Slope	0.50	Moderately suited Strength	0.50
277: Zillion-----	50	Unsuited Horizon table contains no data Slope	1.00 0.50	Unsuited Horizon table contains no data Slope	1.00 1.00	Poorly suited Horizon table contains no data Slope	1.00 1.00
Hesperus-----	35	Unsuited Horizon table contains no data Slope	1.00 0.50	Unsuited Horizon table contains no data Slope	1.00 1.00	Poorly suited Horizon table contains no data Slope	1.00 1.00
282: Tolman, dry-----	60	Unsuited Horizon table contains no data Slope	1.00 0.50	Unsuited Horizon table contains no data Slope	1.00 1.00	Poorly suited Horizon table contains no data Slope	1.00 1.00
Rock Outcrop (andesite, Latite And Trachyte)-----	20	Not rated		Not rated		Not rated	
P49: Frandsen-----	100	Well suited		Moderately suited Slope	0.50	Moderately suited Strength	0.50
P97: Neto-----	98	Well suited		Well suited		Moderately suited Strength	0.50
Small Depressions---	2	Unsuited Horizon table contains no data	1.00	Unsuited Horizon table contains no data	1.00	Poorly suited Horizon table contains no data	1.00
P162: Wiggler-----	45	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Guben-----	40	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
220: Hesperus-----	45	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Zillion-----	40	Poorly suited Slope	0.50	Poorly suited Slope	0.50
229: Skyview-----	45	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Syrett-----	40	Poorly suited Slope	0.50	Poorly suited Slope	0.50
234: Syrett-----	35	Unsuited Horizon table contains no data Slope	1.00 1.00	Unsuited Horizon table contains no data Slope	1.00 1.00
Paunsaugunt-----	30	Unsuited Slope	1.00	Unsuited Slope	1.00
Ustorthents-----	20	Unsuited Slope	1.00	Unsuited Slope	1.00
236: Buffmeyer-----	45	Unsuited Horizon table contains no data Slope	1.00 1.00	Unsuited Horizon table contains no data Slope	1.00 1.00
Rogert-----	20	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Sawpit-----	20	Unsuited Slope	1.00	Unsuited Slope	1.00
240A: Sawdust-----	60	Well suited		Well suited	
Shawa, calcareous----	20	Well suited		Well suited	
277: Zillion-----	50	Unsuited Horizon table contains no data Slope	1.00 1.00	Unsuited Horizon table contains no data Slope	1.00 1.00

Table FOR-4.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Hesperus-----	35	Unsuited Horizon table contains no data Slope	1.00 1.00	Unsuited Horizon table contains no data Slope	1.00 1.00
282: Tolman, dry-----	60	Unsuited Horizon table contains no data Slope	1.00 1.00	Unsuited Horizon table contains no data Slope	1.00 1.00
Rock Outcrop (andesite, Latite And Trachyte)-----	20	Not rated		Not rated	
P49: Frandsen-----	100	Well suited		Well suited	
P97: Neto-----	98	Well suited		Well suited	
Small Depressions---	2	Unsuited Horizon table contains no data	1.00	Unsuited Horizon table contains no data	1.00
P162: Wiggler-----	45	Unsuited Slope	1.00	Unsuited Slope	1.00
Guben-----	40	Unsuited Slope	1.00	Unsuited Slope	1.00

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
220: Hesperus-----	45	Low Texture/coarse fragments	0.10	Moderate Soil reaction	0.50
Zillion-----	40	Low Texture/coarse fragments	0.10	Low	
229: Skyview-----	45	Low Texture/coarse fragments	0.10	Moderate Lime	0.50
				Soil reaction	0.50
Syrett-----	40	Low Texture/coarse fragments	0.10	Moderate Lime	0.50
				Soil reaction	0.50
234: Syrett-----	35	High Horizon table contains no data	1.00	High Horizon table contains no data	1.00
Paunsaugunt-----	30	Moderate Texture/slope/sur face depth/coarse fragments	0.50	Moderate Lime	0.50
				Soil reaction	0.50
Ustorthents-----	20	None		Moderate Lime	0.50
				Soil reaction	0.50
236: Buffmeyer-----	45	High Horizon table contains no data	1.00	High Horizon table contains no data	1.00
Rogert-----	20	Low Texture/coarse fragments	0.10	Moderate Lime	0.50
Sawpit-----	20	Low Texture/coarse fragments	0.10	Moderate Lime	0.50
				Soil reaction	0.50

Table FOR-5.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
240A: Sawdust-----	60	Moderate Texture/coarse fragments	0.50	Moderate Lime	0.50
				Soil reaction	0.50
Shawa, calcareous----	20	Low Texture/coarse fragments	0.10	Moderate Lime	0.50
				Soil reaction	0.50
277: Zillion-----	50	High Horizon table contains no data	1.00	High Horizon table contains no data	1.00
Hesperus-----	35	High Horizon table contains no data	1.00	High Horizon table contains no data	1.00
282: Tolman, dry-----	60	High Horizon table contains no data	1.00	High Horizon table contains no data	1.00
Rock Outcrop (andesite, Latite And Trachyte)-----	20	Not rated		Not rated	
P49: Frandsen-----	100	None		Moderate Soil reaction	0.50
P97: Neto-----	98	Low Texture/coarse fragments	0.10	High Soil reaction	1.00
				Lime	0.50
Small Depressions---	2	High Horizon table contains no data	1.00	High Horizon table contains no data	1.00
P162: Wiggler-----	45	High Texture/slope/coa rse fragments	1.00	Moderate Lime	0.50
				Soil reaction	0.50
Guben-----	40	Moderate Texture/slope/coa rse fragments	0.50	Low	